ABSTRACT OF THE DISCLOSURE

Method and apparatus that enable secure transmission of data in a scalable private network are described. Each station that is to be part of a private network registers with a key table. A group security association associated with the private network is forwarded to each trusted ingress and egress point that communicates with each member of the private network. When a member of the private network seeks to communicate with another member, it simply forwards the communication to the trusted ingress point. The trusted ingress point uses the security association associated with the private network to transform the communication and forwards the transformed communication through other intermediate stations in the network until it reaches a trusted egress point. The trusted egress point uses the stored security association to decode the transformed communication and forwards the communication to the appropriate destination. The ingress and egress points may be any points in the network, including customer edge devices, provider edge devices, or some combination thereof.